Amendments to the Claims

1. (Currently amended) An optical disk drive comprising:

an optical pickup ~~operable to emit~~ for emitting a laser to an optical disk as a recording medium, and signal processing ~~to signal process~~ a reflected light from the optical disk;

a servo error signal generation means for generating ~~generator operable to generate~~ a servo error signal of a focusing and tracking servo system from the reflected light;

an offset detection means for detecting an offset ~~detector operable to detect an offset~~, which occurs in the servo error signal due to defocusing or detracking of an objective lens in the optical pickup, and obtaining ~~to obtain~~ an offset adjustment value for canceling the offset;

an offset adjustment means for adding ~~adjuster operable to provide~~ the offset adjustment value to the servo system to cancel the offset of the servo system, which is detected by said offset detection means ~~detector~~;

a gain adjustment means for adjusting ~~adjuster operable to adjust~~ the gain of the servo system;

a laser power switching means for changing ~~circuit operable to change~~ the power of the laser emitted from the optical pickup;

a command means for outputting ~~unit operable to output~~ an offset adjustment command, a gain adjustment command, and a laser power switching command to said offset adjustment means ~~adjuster~~, said gain adjustment means ~~gain adjuster~~, and said laser power adjustment means ~~switching circuit~~, respectively;

a storage means for holding ~~operable to hold~~ an offset adjustment value, a gain adjustment value, and a laser power, which are to be set in said offset adjustment means ~~offset adjuster~~, said gain adjustment means ~~gain adjuster~~, and said laser power adjustment means ~~switching circuit~~, respectively; and

a driving means for receiving ~~driver operable to receive~~ the servo error signal, and outputting ~~to output~~ a driving signal for controlling said optical pickup,

wherein a first gain adjustment value and a first offset adjustment value to be set in the servo system are stored in said storage means, when the laser power emitted from said optical pickup is a first laser power,

wherein a second gain adjustment value to be set in the servo system when a second laser

power is emitted from said optical pickup is obtained by arithmetic operation on the basis of the first gain adjustment value, the second gain adjustment value is set in said gain adjustment means ~~gain adjuster~~, and a second offset adjustment value for canceling an offset which occurs in the servo system is obtained, and then, the second laser power, gain adjustment value, and offset adjustment value are stored in said storage means, and

wherein when the first laser power is switched to the second laser power during the actual operation, switching of the laser power and switching from the first gain adjustment value and offset adjustment value to the second gain adjustment value and offset adjustment value are carried out simultaneously.

2. (Previously Presented) An optical disk drive as defined in Claim 1, wherein the second gain adjustment value is in proportion to the reciprocal of a ratio of the second laser power when the first laser power is used as a reference.

3. (Original) An optical disk drive as defined in Claim 1, wherein the first laser power is a laser power at a reading level, and the second laser power is a laser power at an erasing level.

4. (Currently amended) An optical disk drive comprising:

an optical pickup for emitting ~~operable to emit~~ a laser to an optical disk as a recording medium, and signal-processing ~~to signal process~~ a reflected light from the optical disk;

a servo error signal generation means for generating ~~generator operable to generate~~ a servo error signal of a focusing and tracking servo system from the reflected light;

an offset detection means for detecting ~~detector operable to detect~~ an offset which occurs in the servo error signal due to defocusing or detracking of an objective lens in said optical pickup, and obtaining ~~to obtain~~ an offset adjustment value for canceling the offset;

an offset adjustment means for adding ~~adjuster operable to provide~~ the offset adjustment value to the servo system to cancel the offset of the servo system which is detected by said offset detection means ~~detector~~;

a gain adjustment means for adjusting ~~adjuster operable to adjust~~ the gain of the servo system;

a laser power switching means for changing ~~circuit operable to change~~ the power of the laser emitted from said optical pickup;

a command means for outputting ~~unit operable to output~~ an offset adjustment command, a gain adjustment command, and a laser power switching command to said offset adjustment means ~~adjuster~~, said gain adjustment means ~~adjuster~~, and said laser power switching means ~~circuit~~, respectively;

a storage means for holding ~~operable to hold~~ an offset adjustment value, a gain adjustment value, and a laser power, which are to be set in said offset adjustment means ~~adjuster~~, said gain adjustment means ~~adjuster~~, and said laser power switching means ~~circuit~~, respectively; and

a driving means for receiving ~~driver operable to receive~~ the servo error signal, and outputting ~~to output~~ a driving signal for controlling said optical pickup,

wherein a first gain adjustment value and a first offset adjustment value to be set in the servo system are stored in a first storage area provided in said storage means, when the laser power emitted from said optical pickup is a first laser power,

wherein after the first gain adjustment value and offset adjustment value obtained by an adjustment operation are stored in said first storage area, said command means ~~command unit~~ outputs a command for turning off the laser output from said optical pickup to the laser power switching means ~~circuit~~ and, after the laser output is turned off, second to m-th (m: integer not less than 2) gain adjustment values to be set in the servo system when second to m-th laser powers are emitted from said optical pickup are obtained by arithmetic operation based on the first gain adjustment value, and the second to m-th gain adjustment values are set in the gain adjustment means ~~adjuster~~, and then, second to m-th offset adjustment values for canceling offsets that occur in the servo system are obtained, and the second to m-th laser powers, gain adjustment values, and offset adjustment values are stored in second to m-th storage areas provided in said storage means, respectively, and

wherein during the actual operation, when the laser power is switched from the first laser power to an n-th (n: integer not less than 2 and not larger than m) laser power among the second to m-th laser powers, switching of the laser power and switching of the first gain adjustment value and offset adjustment value to the n-th gain adjustment value and offset adjustment value

are carried out simultaneously.

5. (Previously Presented) An optical disk drive as defined in Claim 4, wherein the second to m-th gain adjustment values are in proportion to the reciprocals of ratios of the second to m-th laser powers, respectively, when the first laser power is used as a reference.

6. (Original) An optical disk drive as defined in Claim 4, wherein the first laser power is a laser power at a reading level, and the second to m-th (m: integer not less than 2) laser powers are laser powers at erasing levels.

7. (Currently amended) An optical disk drive comprising:

an optical pickup for emitting ~~operable to emit~~ a laser to an optical disk as a recording medium, and signal-processing ~~to signal process~~ a reflected light from the optical disk;

a tracking error signal generation means for generating ~~generator operable to generate~~ a tracking error signal of a tracking servo from the reflected light;

an offset detection means for detecting ~~detector operable to detect~~ an offset which occurs in the tracking error signal due to detracking of an objective lens in said optical pickup or deviation of the optical axis of a photodetector, and obtaining ~~to obtain~~ an offset adjustment value for canceling the offset;

first and second offset adjustment means for adding ~~adjusters operable to add~~ two offset adjustment values to the tracking error signal to cancel the offset of the tracking error signal which is detected by said offset detection means ~~detector~~;

a gain adjustment means for adjusting ~~adjuster operable to adjust~~ the gain of the tracking servo;

a laser power switching means for changing ~~circuit operable to change~~ the power of the laser emitted from said optical pickup;

a command means for outputting ~~unit operable to output~~ an offset adjustment command, a gain adjustment command, and a laser power switching command to said first and second offset adjustment means ~~adjusters~~, said gain adjustment means ~~adjuster~~, and said laser power switching means ~~circuit~~, respectively;

a storage means for holding ~~operable to hold~~ two offset adjustment values, a gain adjustment value, and a laser power, which are to be set in said first and second offset adjustment means ~~adjusters~~, said gain adjustment means ~~adjuster~~, and the laser power switching means ~~circuit~~, respectively; and

a driving means for receiving ~~driver operable to receive~~ the tracking error signal, and outputting ~~to output~~ a driving signal for controlling said optical pickup,

wherein the offset adjustment and gain adjustment of the tracking servo are carried out after the focusing is turned on in the state where a first laser power is set in said laser power switching means ~~circuit~~, and the first offset adjustment value, gain adjustment value, and laser power which are set by the above-described adjustments are stored as first adjustment values in a first storage area provided in said storage means,

wherein after the first adjustment values obtained by the adjustment operation are stored in said first storage area, said command means ~~unit~~ outputs a command for turning off the laser output to said laser power switching means ~~circuit~~ and, after the laser output is turned off, second to m-th gain adjustment values to be set in the servo system when second to m-th (m: integer not less than 2) laser powers are emitted from said optical pickup are obtained by arithmetic operation based on the first gain adjustment value, and the second to m-th gain adjustment values are set in said gain adjustment means ~~adjuster~~, and then, second to m-th offset adjustment values for canceling offsets that occur in the servo system are obtained, and the second to m-th laser powers, gain adjustment values, and offset adjustment values are stored in second to m-th storage areas provided in said storage means, respectively, and

wherein during the actual operation, when the laser power is switched from the first laser power to an n-th laser power among the second to m-th laser powers, the first offset adjustment value and the n-th offset adjustment value are set in said first offset adjustment means ~~adjuster~~ and said second offset adjustment means ~~adjuster~~, respectively, simultaneously with the switching of the laser power from the first laser power to the n-th laser power.

8. (Currently amended) An optical disk drive as defined in Claim 7, wherein said tracking error signal generation means ~~generator~~ is operable to perform a push-pull tracking error signal generation method.

9. (Original) An optical disk drive as defined in Claim 7, wherein the first laser power is a laser power at a reading level, and the second to m-th laser powers are laser powers at erasing levels.